ReadyLINK®

“Quick Install Guide”

Compex ReadyLINK Express 10/100 Fast Ethernet Adapter

RE100TX/PCI
RE100TX/WOL

Version 1.4C

COMPEX®
networks@work

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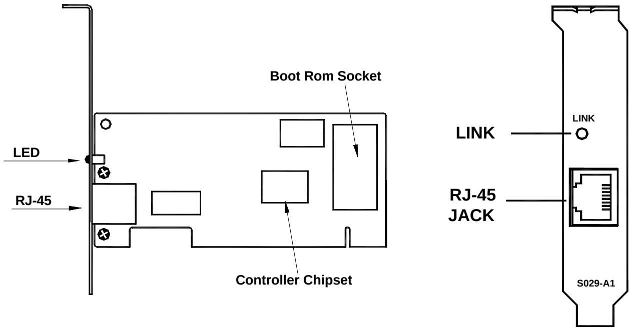

Figure 1: Compex ReadyLink Express 100TX/PCI Adapter

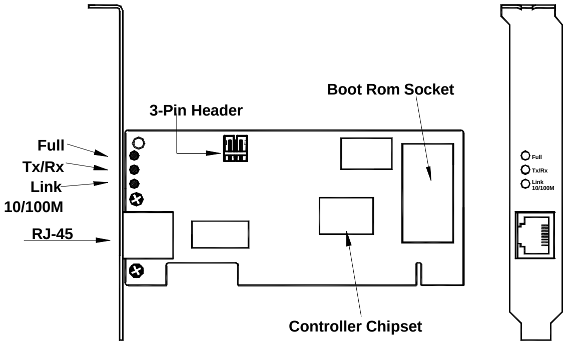

Figure 2: Compex ReadyLink Express 100TX/WOL Adapter

Full LED	Lights up = Card in Full Duplex Mode
Link 10/100M LED	Lights up = link to 10 or 100M network
Tx/Rx LED	Lights up = Link to network Blinks = Transmit/Receive

Note: This 3-Pin Header is for Wake on LAN function. You must connect WOL cable to this pin as in Red wire in Red pin header, Black wire in Black pin cable and Green wire in Green pin header

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Compex ReadyLink Express 10/100
Fast Ethernet Adapter
RE100TX/PCI and RE100TX/WOL

– *Introduction*

Faster networking and high-speed topologies offer data transmission of 100 Mbits per second (Mbps). The 100 Mbps Fast Ethernet offers the most cost-effective route and easily implemented path to fast networking, and even future upgrades as new technologies emerge.

The **Compex ReadyLink Express 10/100 Fast Ethernet Adapter (RE100TX/PCI) and (RE100TX/WOL)** are 32-bit bus mastering Fast Ethernet network adapter that complies with Peripheral Component Interconnect (PCI) Local Bus Specifications (Revision 2.1).

A high performance bus, the PCI local bus provides a processor-independent data path between the CPU and high-speed peripherals. The PCI specifications defines PCI devices as two types, namely a master and a target. The master (or bus master) is an intelligent device that can conduct data processing independent of other devices. Bus mastering allows a peripheral device to take control of the system bus without relying on the CPU in the PC. A target device accepts commands and responds to the request of a master device. The result is an increased throughput when compared with conventional AT-bus systems.

– *Features:*

The important features of the RE100TX/PCI and RE100TX/WOL network adapter are:

- ♦ Supports PCI Bus Master zero wait state runs at clock speed of 33MHz and employs a 32-bit high speed data transfer at a peak bandwidth of 132 Mbps.
- ♦ Complies with the Ethernet IEEE 802.3 10Base-T and IEEE802.3u 100Base-TX standards.

- Standard RJ-45 twisted-pair connector.
- 10/100 Mbps Ethernet data transfer rate.
- Supports half duplex and full duplex mode operation.
- Full compliant with ACPI R1.0, PCI Bus Power Management Interface Specification R1.0 and Network device Class Power Management Reference specification V1.0a (RE100TX/WOL only).
- Supports remote Wake-up-LAN (RE100TX/WOL only).
- Software driver support for Novell NetWare, Personal Netware, Netware DOS Client, Microsoft LAN Manager, Windows NT, Windows 95/98, SCO Unix, Linux Red Hat, etc.
- Allows full auto configuration support of PCI Local Bus.
- Automatic media detection between 10 Mbps and 100 Mbps networks using N-Way Auto-negotiation mechanism.

Installing the adapter

1. Power OFF the computer and any attached peripherals.
2. Disconnect the cables connected to the computer.
3. Move your keyboard, etc. to clear the work area.
4. Remove the computer's cover casing according to the manufacturer's instructions.
5. Choose a bus master PCI expansion slot.
6. Unscrew and remove the dummy slot cover.
7. Align and insert the adapter into the slot. Make sure that the adapter fits securely and the connection is good.
8. Connect the WOL cable to the adapter card then connect the other end of the WOL cable to motherboard’s WOL header .
9. Fasten the screw on the mounting bracket. Replace the cover casing.
10. Connect the adapter to the network using UTP cable. Reconnect other cables to the computer.
11. Power ON the computer.
12. Invoke the CMOS Setup Utility if you have a very old motherboard. Refer to your computer manual for instructions.
13. At the CMOS Setup Utility menu, select PCI Slot Configuration sub-menu.
14. Set the Interrupt Line to **INT A** for the PCI slot used.
15. Save the changes and exit the Setup Utility. Proceed to the next stage.

–

Diagnostic and Installation of Drivers

The **INSTALL** utility found in the distribution diskette lets you test the card through the Diagnostic option and driver installation through the Network Driver option. The Menu will guide you through the network driver installation.

–

Implementing 100Base-TX networks

100Base-TX networks require a slightly different implementation from that of the 10Base-T networks. Different Hubs and different wiring configurations are needed.

- ♦ 10Base-T hubs are incapable of sending or receiving packets at 100 MBits per sec. 100Base-TX hub is required for 100Base-TX network implementation.
- ♦ The 100Base-TX supports a maximum lobe length (the distance from the hub to the workstation) of 100 meters (Category 5) UTP cable.
- ♦ A 100Base-TX network sends signals 10 times faster than 10Base-T network. This means that the collision window (the time during which the network can detect a collision between packets) for 100Base-TX is reduced to one-tenth of the 10Base-T collision window.
- ♦ For proper collision detection, the 100Base-TX network diameter must be one-tenth (205 meters) that of the 10Base-T network (2,500 meters).
- ♦ In a repeater environment, 100Base-TX allows only a single layer of cascaded hubs. On the other hand, switching hubs can be used to increase the network diameter for a 100Base-TX LAN by packet buffering. Each switch port can be connected to a separate LAN segment (each with a maximum segment diameter of 205 meters) and this increases the overall diameter of the 100Base-TX network.
- ♦ 100Base-TX has a different cabling requirement from 10Base-T. 100Base-TX requires data-grade (Category 5) UTP cable.

– Implementing Advanced Power Management

The RE100TX/WOL implements power management functions which are compliant with ACPI R1.0 as well as remote Wake-up-LAN.

In the ACPI mode, the RE100TX/WOL supports all three wake-up events defined in the OnNow Network Device Class Power Management Specification:

- Detection of change in the network link state
- Reception of a network wake-up frame
- Reception of a Magic Packet

As for Remote Wake-Up-LAN mode, it deploy Advanced Micro Device's Magic Packet technology to power up a sleeping workstation on the network. This mechanism will be accomplished when the RE100TX/WOL receives a specific packet of information, called Magic packet, addressed to the node on the network.

– Comparision of 10bps and 100bps network implementations

Description	10Base-T	100Base-TX
Cables supported	2 pairs Cat 3, 4, or 5 UTP	2 pairs Cat 5 UTP
Network diameter	2,500 meters	205 meters
Lobe length	100 meters	100 meters
Connector	RJ-45 (UTP)	RJ-45 (UTP)
Maximum data Throughput	half-duplex — 10 Mbps full-duplex — 20 Mbps	Half-duplex — 100 Mbps full-duplex — 200 Mbps
Repeater layers	Up to three (3)	One (1)
Switching Hub	Optional	Recommended
Default Settings: [1] Interrupt Channel: INT A (The INT A is mapped to an IRQ channel; and the IRQ channel is assigned by the PCI system BIOS). [2] I/O Address is defined by the PCI system BIOS.		

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FCC NOTICE: This device has been tested and found to comply with the limits for a **Class A** digital device, pursuant to **Part 15 of the FCC Rules**. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, the user is encouraged to try to correct the interference by one or more of the following measures:

± Reorient or relocate the receiving antenna.
± Connect the computer into an outlet on a circuit different from that to which the receiver is connected.
± Increase the separation between the computer and receiver.
± Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

FCC Compliance Statement: This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

DECLARATION OF CONFORMITY: ***Compex, Inc. declares that the product:*** Product Name: *Compex ReadyLink Express 10/100 Fast Ethernet Adapter* Model Number: *RE100TX/PCI and RE100TX/WOL* ***conforms to the following Product Standards:*** Radiated Emission Standards: EN55022A, FCC Part 15 Class A; Conducted Emission Standards: EN60555Pt2 conducted emission; EN55022A conducted emission, FCC Part 15 Class A; Immunity Standards: IEC 801-2; IEC 801-3; IEC 801-4. ***Therefore, this product is in conformity with the following regional standards:*** **FCC Class A** — following the provisions of FCC Part 15 directive;
CE Mark — following the provisions of the EC directive.

Manufacturer's Name: ***Compex, Inc.***
Address: *4051 E. La Palma, Unit A,*
Anaheim, CA 92807, USA
European Contact:
ReadyLINK Networktechnology GmbH,
Technical Support
Albert Einstein Straβe 34 / M21,
63322 Rödermark, Germany
[Fax: +49 (0) 6074-90668]

January 16th, 2001

Mr Shi Jia Xiang
Deputy R & D Manager

NOTES

Technical Support Centers

Contact the technical support center that services your location.

U.S.A., Canada, Latin America and South America

✉ Write	**Compex, Inc.** 4051 E. La Palma, Unit A Anaheim, CA 92807, USA
☎ Call 📠 Fax	Tel: (714) 630-7302 (8 a.m.-5 p.m. Pacific time) Fax: (714) 630-6521 BBS: (714) 630-2570 (24-hour access)

Europe

✉ Write	**ReadyLINK Networktechnology Gmbh** Albert Einstein Straβe 34 / M21 63322 Rödermark, Germany
☎ Call 📠 Fax	Tel: ++49 (0) 6074 - 98017 (8 a.m.-5 p.m. local time) Fax: ++49 (0) 6074 - 90668 BBS: ++49 (0) 6074 - 93974 (24-hour access)

Asia, Australia, New Zealand, Middle East and the rest of the World

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Internet access/	E-mail: **support@compex.com.sg** FTPsite: **ftp.compex.com.sg**
Website:	**http://www.cpx.com** *or* **http://www.compex.com.sg**

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Compex, Inc.
4051 E. La Palma, Unit A
Anaheim, CA 92807 USA
(714) 630-7302

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